

TRANSFORMER EXCITATION RUSH CURRENT SUPPRESSOR

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Abstract of JP3128622

PURPOSE: To suppress an excitation rush current to a degree within a permissible range by setting the value of series resistance to 20 to 100 times the reactance value of a closing side winding at the time of saturating an iron core and short-circuiting the series resistance after at earliest one cycle from closing, in the case of a transformer excitation rush current suppressor for suppressing an excitation rush current.

CONSTITUTION: In an excitation rush current, the first wave always has a maximum magnitude when a circuit condition is equal. Accordingly, it is necessary to insert resistance in at least 1 cycle or more for suppressing the first wave. In evaluation of the level of the excitation current, the level of magnetic flux density exceeding a saturation value may be considered. On the other hand, when the series resistance is removed from a system, a new excitation rush current is generated by rapidly changing load voltage and the phase of a transformer. Here by setting the series resistance to 20 to 100 times the reactance value of a closing side winding, the excitation rush current is suppressed to the minimum.

